STUDIES IN INTELLIGENCE



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Soviet Nuclear Start

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Thiessen's group, with calculational help from the Hertz group, worked on mesh-backed gaseous diffusion barrier (as Von Maydell had reported) and on plant design. Some of the Germans had even helped set up a barrier factory at Elektrostal and knew the cutting and loss factors required to turn square footage of nickel wire mesh into completed barrier. The German mathematical theory on gaseous diffusion was strangely easy to understand; with minor exceptions the symbols and formulae somehow seemed familiar. Then someone had the bright idea of looking up several of Klaus Fuchs' wartime papers on gaseous diffusion: that was where the Germans got it.

"Kefirstadt" turned out to be Verkh Neyvinsk in the Urals, leaving the function of Nizhnyaya Tura and its associated large power plant an enigma. Presumably power was sent by transmission line to Verkh Neyvinsk, there being mention in the technical press of transmission line construction from Nizhnyaya Tura southward.

In retrospect, following the trail of Gustav Hertz and his associates proved to have been a wise course of action. Despite Russian efforts at security compartmentation the Germans had valuable information which complemented that from other sources. Indeed it would not have been possible to achieve an understanding of the later U-2 photography of Soviet U-235 facilities and uranium metal plants without the information obtained from the Germans.

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^{&#}x27;For the subsequent solution of this mystery and further description of the Urals atomic complex see the author's "The Decryption of a Picture" in Studies XI 3, p. 41 ff.